Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Innovation in the Broadcast Television Bands:	)	ET Docket No. 10-235
Allocations, Channel Sharing and Improvements	)	
to VHF	)	

To: The Commission

COMMENTS OF THE OPEN MOBILE VIDEO COALITION

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The Open Mobile Video Coalition ("OMVC") submits these comments in response to the Commission's November 20, 2010, Notice of Proposed Rulemaking ("Notice") in the captioned proceeding.

INTRODUCTION AND SUMMARY

The OMVC is a nationwide alliance of over 900 commercial and non-commercial broadcast television stations that are committed to promoting the development and deployment of mobile digital television ("Mobile DTV") products and services by maximizing and leveraging local television broadcasters' existing transmission infrastructure and spectrum assets. Earlier this year, the OMVC opened its membership to equipment manufacturers, applications developers, and service providers dedicated to building a robust and successful marketplace for broadcast Mobile DTV. In less than three months, the OMVC has added some of the leading device manufacturers and industry participants to its ranks, including Dell, Harris, LG, Samsung, and Siano. As described below, this enthusiastic and united industry support has helped spur consumer demand for Mobile DTV services and facilitate the development of a sustainable business model for Mobile DTV.

The OMVC believes the Commission must take broadcast Mobile DTV services into account as it considers mechanisms to encourage innovation and investment in wireless broadband services. The OMVC urges the Commission to recognize the vital and complementary role that Mobile DTV can — and should — play in achieving these goals. There is broad consensus that the perceived need for additional spectrum for wireless broadband is driven by growing consumer demand for the bandwidth required to distribute high-quality mobile video.[1] Mobile DTV, which utilizes local broadcasters' existing infrastructure, is the most readily accessible, efficient, and reliable technological means for meeting consumer demand for high-quality mobile video services in the near and long term. By solving the inherent capacity challenges presented by the one-to-one communications architecture used by wireless broadband providers to deliver mobile video, Mobile DTV, which relies on an efficient one-to-many video broadcast transmission system, can meet consumer demand while actually freeing up network capacity for innovation and investment in other wireless broadband applications and services.

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[1] *See, e.g.*, Commissioner Meredith A. Baker, Remarks at the Silicon Flatirons Center: The Rise of Broadband Video and the Future of Digital Media (Oct. 12, 2009) (noting that acclaimed motion pictures and popular television programs are spurring consumer demand and stating that "[c]arriage of video matter, particularly that offered in high definition, is one of the most bandwidth-consuming applications"); Cisco, *Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2010–2015* (Feb. 1, 2011), http://www.cisco.com/en/US/solutions/collateral/ns341/ns525/ns537/ns705/ns827/white_paper_c11-520862.pdf (stating that mobile "video traffic was 49.8 percent of total mobile data traffic at the end of 2010" and "will account for 52.8 percent of traffic by the end of 2011," and predicting that "[t]wo-thirds of the world's mobile data traffic will be video by 2015"); Comments of CTIA — The Wireless Association: NBP Public Notice # 6, GN Docket Nos. 09-47, 09-51, 09-137, at 30 (Oct. 23, 2009) (stating that watching video using a wireless broadband connection "consumes almost one hundred times the data bandwidth of a voice conversation" and that by 2013 "nearly 64 percent of the world's mobile traffic will be video"); Stephen Lawson, "Verizon Looks to Video Broadcasting on LTE," PCWORLD (Nov. 8, 2010), http://www.pcworld.com/businesscenter/article/210063/verizon_looks_to_video_broadcasting_on_lte.html.

But the Notice reflects a tension between the Commission's stated goals in this proceeding — *i.e.*, meeting consumer demand for wireless broadband and spurring innovation and investment, on the one hand, and preserving over-the-air television service "as a healthy, viable medium," on the other.[2] In particular, each of the proposals contained in the Notice, if not implemented in a manner that is truly voluntary and that preserves broadcasters' existing service areas and high technical quality of service, could prevent or significantly frustrate broadcasters' ability to offer robust and reliable broadcast Mobile DTV services.

The OMVC believes the Commission should proceed cautiously so that broadcasters and consumers alike can enjoy the dividends that have begun to accrue as a result of our nation's multi-billion dollar investment in the DTV transition.[3] Since the transition was completed less than two years ago, many broadcasters have worked closely with the Commission to make adjustments to their stations based on unexpected technical difficulties resulting from the transition, including losses of local television service to the public caused by new channel assignments. Notwithstanding these challenges, broadcasters at the same time worked diligently to begin developing their digital spectrum assets to offer innovative and advanced services to the public. Broadcasters have used their scarce 19.4 Mbps digital bitstream efficiently to provide, for example, high-definition programming, numerous multicast channels, and Mobile DTV service. Further involuntary reductions in this capacity would severely constrain, and in many

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[2] *See* Notice, ¶ 1; *see also Connecting America: The National Broadband Plan* (March 2010), http://www.broadband.gov/plan (concluding that 120 megahertz of spectrum from the broadcast television bands should be repurposed for wireless broadband uses) [hereinafter "National Broadband Plan"].

[3] *See, e.g.*, H.R. Rep. 101-1026, 101st Cong., 2nd Sess., at 133–34 (1990).

cases preclude, local television broadcasters from continuing to offer these services to the public and to innovate and introduce new services in the future.

The OMVC appreciates the Commission's stated goal of a sustainable and efficient spectrum management policy that will permit innovation in the broadcast bands. Indeed, Mobile DTV demonstrates the ways in which broadcasters can leverage the DTV transition to invest in innovative service offerings that are both sustainable and technically efficient. Accordingly, the OMVC urges the Commission to ensure that the proposals contained in the Notice (1) are implemented on a truly voluntary basis and (2) do not disrupt or diminish free, local broadcast television service generally, and broadcast Mobile DTV in particular. Adherence to these two principles will help ensure that the United States keeps pace with the global wireless revolution while preserving local broadcast television service "as a healthy, viable medium."[4]

I. THERE IS DEMONSTRABLE CONSUMER DEMAND FOR MOBILE DTV.

The National Broadband Plan recognized Mobile DTV as "a potential evolution path for broadcasters to fixed/mobile and broadcast/broadband convergence."[5] But the Plan authors observed that "the method of delivery that will be favored by consumers and be successful in the market has yet to be determined" and that "[t]he business model for mobile DTV is uncertain."[6]

Any questions regarding consumer acceptance and demand have since been resoundingly answered. Since the National Broadband Plan was issued, consumers have

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[4] Notice, ¶ 18.

[5] National Broadband Plan, at 91.

[6] *Id.*

demonstrated a strong demand for broadcast Mobile DTV services; Mobile DTV devices have entered the market; over 70 Mobile DTV stations across the country have commenced service; and broadcasters are working, through ventures such as the Mobile Content Venture[7] and the Mobile 500 Alliance,[8] to develop business models for Mobile DTV.

The OMVC launched the DC Consumer Showcase last year to obtain direct consumer feedback on the use and functionality of Mobile DTV on a number of different mobile and portable devices, including (1) a broadcast Mobile-DTV enabled version of Samsung's "Moment" Android-based, app supporting smartphone, (2) Dell's Inspiron Mini 1012 netbook, and (3) LG's portable DVD player. The DC Consumer Showcase featured 23 channels, including 12 free local television broadcast channels, 2 local radio broadcast channels, and 9 premium network channels. Over 350 consumers in the Washington DC metro area participated.[9]

The results of the DC Consumer Showcase demonstrate that there is significant consumer demand for broadcast Mobile DTV. Participants expressed a high level of excitement to be able to watch their favorite programs in new situations and on new platforms, and there was a strong degree of satisfaction with the Mobile DTV experience.

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[7] For more information about the Mobile Content Venture, please see http://www.themcv.com/about-mcv.

[8] For more information about the Mobile 500 Alliance, please see http://www.mobile500alliance.com/.

[9] The free local broadcast channels were WRC NBC4, WTGG Fox5, WUSA9 CBS, Univision, MHz Networks 1, MHz Networks 7, PBS Mobile, PBS Kids, WAMU-FM, WETA-FM, WNUV CW, ThisTV, TheCoolTV, and QUBO. The premium channels were Fox News, Fox Business, MSNBC, CNBC, MTV, Nickelodeon, Comedy Central, E!, and the Food Network.

Live, local content — including breaking news and live sporting event coverage — was the key attraction for consumers to Mobile DTV and was perceived as the most important differentiator from mobile video services offered by wireless carriers. Despite having access to competing mobile and online video services on the Samsung smartphone and the Dell netbook, participants preferred using the Mobile DTV app so that they could watch live, local content. Local news was by far the most viewed programming genre based on the total episodes watched.

Mobile DTV Is the Only Mobile Video Distribution System That Offers Live, Local Content

"Local news/weather is the most valuable programming to me."

"Most important is having the local channels. Local news and weather."

"The news is most valuable for me because I don't always catch the news at home. So being able to watch on the way to work on the shuttle or on my lunch break helps."

"Live content is #1 for this service . . . following news and sports . . . are key."

"Everyone that I have shown [Mobile] DTV to is shocked . . . that there is live TV on the phone."

In addition to live, local content, Mobile DTV offers the public a wide range of free local broadcast television services and premium paid cable network programming. During the DC Consumer Showcase, for example, participants viewed over thirty different programming genres, including political and national news, sitcoms, and movies. Participants tuned in throughout the day to stay connected and watch their favorite programs. In fact, over a quarter of the people watching Mobile DTV on a typical day during the DC Consumer Showcase spent more than an hour viewing.

The DC Consumer Showcase also demonstrated that broadcasting, which can transmit information to a mass audience for simultaneous viewing, is the most reliable and efficient wireless communications system for delivering critical news and public safety

information. During emergencies and other breaking news situations, participants relied on Mobile DTV to get up-to-the-minute information from their trusted local broadcast television news services. For example, when many homes were left without power after severe storms hit the Washington, DC metro region, participants relied on Mobile DTV to stay safe and informed.

Mobile DTV Is Invaluable During Times of Emergency

"The [Mobile] DTV worked great during the storm yesterday. Even in my basement away from windows I still got channel 5 and 9 and was able to keep up with the goings on with the weather."

"I love the live content because once there was a bomb threat at my job and no one at the mall knew anything about it. I went on to watch the news and BAM there it was live."

"As we've all found out recently having this kind of access, especially when power is out, is invaluable."

"The most valuable programming is the local news, especially during the area-wide power outages."

There is a wide variety of use cases for broadcast Mobile DTV. For example, during the DC Consumer Showcase, participants viewed Mobile DTV during lunch breaks, and while waiting in check-out lines, for their children to finish sports practice, or for a friend to join them at a restaurant. Many parents reported regretting to have to return their Mobile DTV devices at the end of the trial because their children enjoyed watching Mobile DTV in the back seat of the car or using the device as an alternative TV in the home. Overall, participants valued being able to have Mobile DTV fit conveniently into their lives.

Moreover, a number of independent studies suggest that broadcast Mobile DTV is uniquely positioned to meet consumer demand for mobile video services. The vast majority of television viewing continues to be linear. According to a November 2010 Nielsen Report, nearly

287 million users watched traditional linear television in the second quarter of 2010.[10] During the same time period, users in all television homes spent an average of approximately 144 hours per month watching linear television, and only 10 hours watching time-shifted television. Similarly, a February 2011 report from Deloitte revealed that nearly three-quarters of consumers still prefer to watch their favorite TV shows live, despite a multitude of on-demand viewing options.[11] In contrast to one-to-one wireless broadband architectures that struggle to provide uninterrupted video service simultaneously to millions of subscribers,[12] Mobile DTV's one-to-many architecture can easily meet the high demand for live and linear viewing — as well as for time-shifted or on-demand programming. The ability to store programming and other data locally on the device is included in the ATSC Mobile DTV standard (A/153), and a number of mobile and portable device manufacturers are incorporating time-shifting and on-demand features into their Mobile DTV receivers.

Finally, consumers have expressed a strong interest in using broadcast Mobile DTV services. For example, 75 percent of the participants who used the Samsung Moment smartphone during the DC Consumer Showcase stated that they are very likely or somewhat likely to use free Mobile DTV services given current Mobile DTV reception and coverage, and

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[10] *See* Nielsen, *State of the Media: TV Usage Trends Q2 2010* (2010), http://blog.nielsen.com/nielsenwire/wp-content/uploads/2010/11/Nielsen-Q2-2010-State-of-the-Media-Fact-Sheet.pdf.

[11] *See* Deloitte, *The State of the Media Democracy Survey*, Fifth Edition (2011), http://www.deloitte.com/assets/DcomUnitedStates/Local%20Assets/Documents/TMT_us_tmt/us_tmt_somdgc_020111.pdf.

[12] For example, despite months of planning and preparation by mobile broadband providers, many consumers were unable to receive online streaming video of President Obama's January 2009 inauguration ceremony. *See* Associated Press, "Cell Phone Service Patchy for Those at Inauguration," SAN JOSE MERCURY NEWS (Jan. 21, 2009).

over 70 percent of these participants reported that they are very likely or somewhat likely to subscribe to premium services.

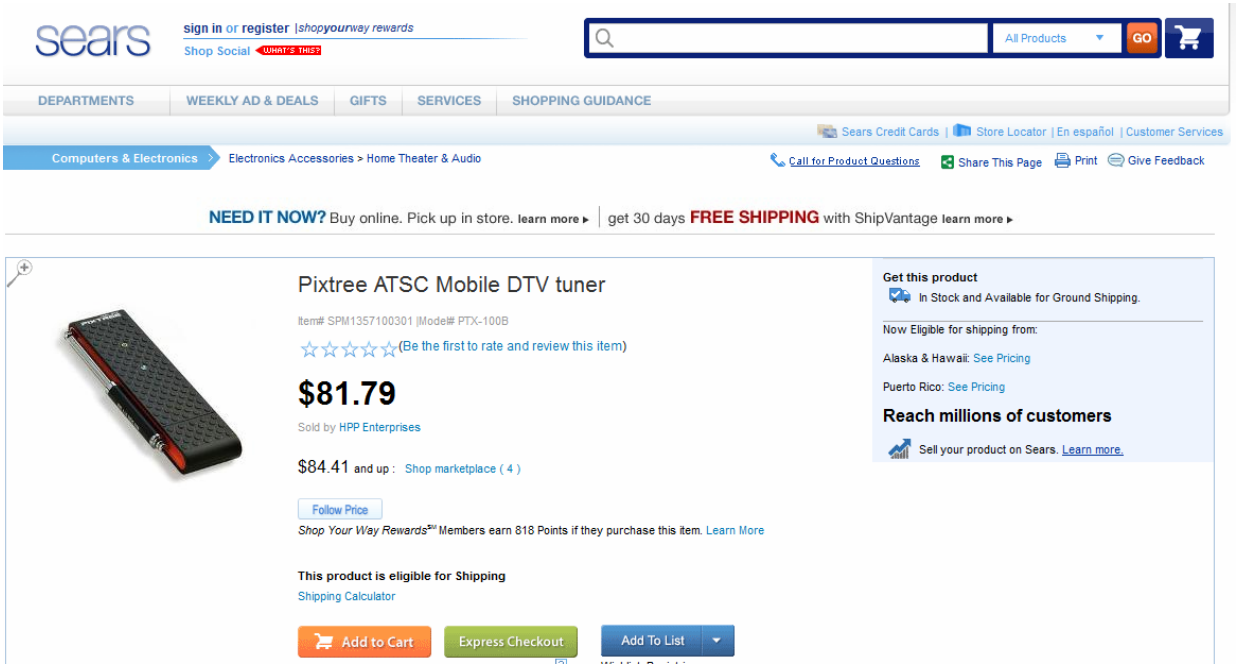
In order to meet U.S. consumer demand for Mobile DTV, a number of leading consumer electronics manufacturers and retailers are offering broadcast Mobile DTV devices at affordable prices. For example:

- Walmart is selling LG's 7-inch portable DVD player with a built-in Mobile DTV tuner for only $199.[13]

[13] http://www.walmart.com/ip/LG-7-Portable-DVD-Player/14546477?sourceid=15000000000000003142050&ci_src=14110944&ci_sku=14546477.

- Amazon is selling the Coby TV-To-Go USB Mobile DTV receiver for only $75.[14]

- Sears is selling a Pixtree Mobile DTV Tuner for only $82.[15]



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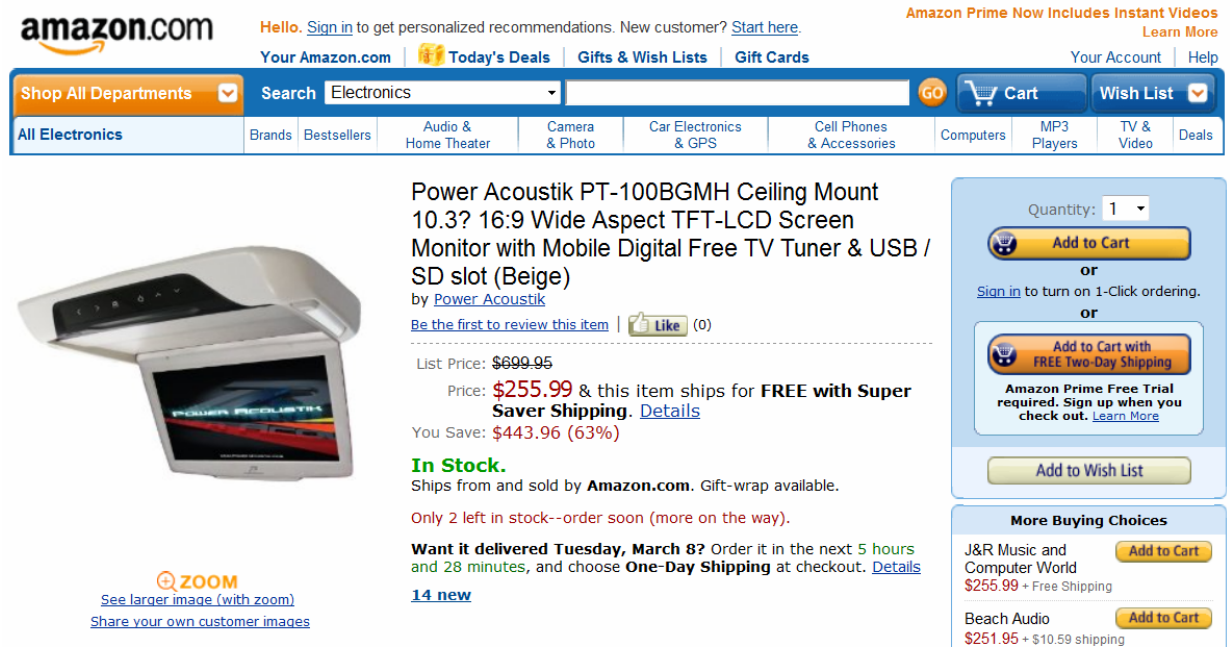
[14] http://www.amazon.com/Coby-TV-Receiver-DTV111-Black/dp/B003TJVP80/ref=sr_1_1?ie=UTF8&s=electronics&qid=1298496288&sr=1-1.

[15] http://www.sears.com/shc/s/p_10153_12605_SPM1357100301P?sid=IDx20101019x00001b&srccode=cii_18492716&cpncode=00-2293075-2.

- Amazon is advertising a Power Acoustik ceiling mount car display with Mobile DTV for only $256.[16]



And more than two dozen other mobile and portable Mobile DTV devices are expected to be commercially introduced later this year.[17]

The growth of the Mobile DTV market in the U.S. is consistent with the wide consumer adoption of mobile television abroad and analysts' predictions that mobile television is a rapidly growing economic engine. For example, in China, where the China Broadcasting Corporation and China Mobile recently announced that they are launching a new commercial over-the-air mobile television service, 10 million users are expected to be added in 2010, with a goal of adding 100 million mobile television subscribers over the next five years.[18] Similarly, in

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[16] http://www.amazon.com/Power-Acoustik-PT-100BGMH-Ceiling-Mount/dp/B003GAN148/ref=sr_1_11?ie=UTF8&qid=1298492210&sr=8-11.

[17] *See, e.g.*, http://rcaportabletv.com/.

[18] Marbridge Consulting, "CBC Targets 10 Mln CMMB Users in 2010" (Jan. 29, 2010), http://www.marbridgeconsulting.com/marbridgedaily/2010-01-29/article/33335/cbc_targets_10_mln_cmmb_users_in_2010.

South Korea, where broadcasters have offered mobile television over-the-air for five years, 27 million people (representing 56 percent of the population) watch regularly.[19] And IMS Research estimates that at least 40 million people worldwide watched live TV on mobile phones in 2010.[20] The OMVC and its members are committed to ensuring that the U.S. remains competitive in the global deployment of mobile television and urge the Commission to avoid taking any steps that would prevent or hinder American consumers from being able to access this innovative service.

II. THE COMMISSION'S FLEXIBLE USE PROPOSAL MUST BE CAREFULLY IMPLEMENTED TO AVOID DISRUPTION TO MOBILE DTV AND FUTURE ADVANCED MOBILE SERVICES.

In the Notice, the Commission proposes to add new allocations for unspecified wireless broadband services in the broadcast television bands. New wireless broadband licensees would be "co-primary" with broadcast television licensees, which appears to mean that wireless broadband and broadcast television licensees would have mutual interference protection.

The OMVC agrees that "any new rules allowing for more flexible uses within the TV band must leave incumbent broadcast licenses with viable opportunities to experiment with their own mix of wireless services."[21] The OMVC believes the Commission's spectrum allocation proposal has merit if and to the extent it would provide broadcast television licensees greater flexibility to utilize their existing spectrum assets to develop innovative and advanced

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[19] Kevin J. O'Brien, "Mobile TV's Last Frontier: U.S. and Europe," NY TIMES (May 30, 2010), http://www.nytimes.com/2010/05/31/technology/31mobiletv.html?pagewanted=1&_r=1.

[20] *See id.*; "ABI Research: Mobile TV Services Set for Accelerated Adoption after 2012," INTOMOBILE (June 21, 2010), http://www.intomobile.com/2010/06/21/abi-research-mobile-tv-services-set-for-accelerated-adoption-after-2012/.

[21] Notice, at 42.

services for the public, such as Mobile DTV, ATSC 2.0,[22] and future ATSC "Next Generation Broadcast Television"[23] services. For example, a framework that permits greater flexibility in the use of broadcast television spectrum could facilitate joint ventures between broadcast television licensees and wireless broadband providers to deliver high-bandwidth mobile video content to subscribers through the Mobile DTV system using broadcasters' existing spectrum assets while using wireless broadband providers' return path capability for services such as interactive applications and advertising.

However, although the Commission repeatedly characterizes its proposal as a "flexible" approach that will promote both wireless broadband and broadcast television uses, a close reading of the text suggests that this nomenclature is, at worst, a misnomer and, at best, ambiguous. For example, the Notice states that the Commission will "maintain[] current license assignments in the band,"[24] but elsewhere states that there will be a "[r]eallocation" of an indefinite "portion" of the broadcast television spectrum;[25] that the Commission in future proceedings "will address the [*National Broadband*] *Plan's* proposal for channel re-packing;"[26] and that broadcast television stations' spectrum will be "recovered."[27]

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[22] The Advanced Television Systems Committee currently is working on developing the "ATSC 2.0" standard, which will enable broadcasters to offer even more advanced services.

[23] *See* "ATSC Announces New Planning Teams," (May 12, 2010), http://www.atsc.org/cms/index.php/communications/press-releases/211-atsc-announces-new-planning-teams (announcing the Next-Generation Broadcast Television Team, which "will explore potential technologies to be used to define a future terrestrial broadcast digital television standard").

[24] Notice, ¶ 2.

[25] Notice, ¶ 1 ("Reallocation of this spectrum as proposed . . . .").

[26] Notice, ¶ 3 (emphasis in original).

[27] Notice, ¶ 14.

This language suggests that the proposed amendments to the U.S. Table of Frequency Allocations could ultimately result in an inflexible repacking of the so-called "broadcast television bands" so that a substantial contiguous portion of the band will be assigned only for fixed and mobile wireless broadband services and will no longer be available for broadcast television uses.[28] Alternatively, the language can be interpreted to mean that interleaved portions of the broadcast spectrum could be assigned strictly for non-broadcast broadband uses.

It also is unclear whether the new spectrum allocations proposal will result in any forced displacement of broadcast television licensees. Notably absent from the Commission's description of the spectrum allocations proposal is any mention that such "repurposing" would be voluntary.

Any implementation of the new spectrum allocations proposal that would have the effect of forcing television broadcasters into a portion of the broadcast television band that is smaller or that is ill-suited for Mobile DTV services, or of reducing broadcast television service areas or service quality, would undermine the important goal of "preserving the free, over-the-air broadcast television service and maintaining the diversity of local voices and important informational and entertainment benefits it provides the American public."[29] For example, if interleaved spectrum is reassigned exclusively for unspecified wireless broadband uses, current interference protections will most certainly be inadequate to protect the public's local television

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[28] *See* Notice, ¶ 1 ("Through this Notice, we take preliminary steps to enable the repurposing of a portion of the UHF and VHF frequency bands . . . which in later actions we expect to make available . . . for use by fixed mobile wireless communications services, including mobile broadband.").

[29] Notice, ¶ 13.

services, including Mobile DTV. Alternatively, more robust interference protections for "co-primary" licensees could have the unintended affect of reducing stations' service areas.

Accordingly, OMVC urges the Commission to carefully consider and avoid any allocations in the broadcast television band that would have "a ripple effect across other users or inhibit[] future efforts."[30] Mobile DTV and mobile broadband are — and must continue to be — complementary services. The National Broadband Plan recognized that the complementarity of mobile broadband and broadcast applications, such as Mobile DTV, "provide[s] an opportunity to take advantage of the relative efficiencies of point-to-multipoint and point-to-point architectures in order to deliver various types of content in the most spectrum-efficient ways" and found that "broadcasting popular video content to mobile devices may help offload growing video streaming traffic from mobile point-to-point broadband networks."[31] Likewise, some wireless broadband providers have recognized the need for broadcast technology to supplement wireless broadband systems to enable mobile video content to be more efficiently distributed to the public. For example, Verizon Wireless's Chief Technology Officer, Tony Melone, has stated that the company is "working with all of our infrastructure providers . . . to develop the technology to incorporate a broadcast capability. . . . We think that will be a solution to this problem down the road, that there will be a broadcast element to our 4G network that can then more efficiently deal with the live content."[32]

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[30] Notice, at 45–46 (statement of Commissioner Baker).

[31] National Broadband Plan, at 89, 91.

[32] Stephen Lawson, "Verizon Looks to Video Broadcasting on LTE," PCWORLD (Nov. 8, 2010), http://www.pcworld.com/businesscenter/article/210063/verizon_looks_to_video_broadcasting_on_lte.html.

These conclusions are based on the fact that Mobile DTV is a much more efficient and reliable system for enabling high-demand, high-quality content, such as local and national news, network, weather, and sports programming, to be watched simultaneously by millions of viewers without congesting and imposing unsupportable bandwidth demands on mobile broadband networks or exceeding caps on consumers' data plan usage. For example, when one of the largest earthquakes ever recorded struck the northeastern coast of Japan, over-the-air mobile television services were the only communications lifeline that remained available for many residents throughout the country. Individuals stranded in Tokyo used their smartphones to tune into over-the-air television broadcasts to receive aftershock and tsunami alerts and breaking news reports and information.[33] Meanwhile, Tokyo's mobile phone and mobile broadband services were down. The OMVC encourages the Commission to clarify its spectrum allocation proposal to explicitly recognize the complementary role that Mobile DTV can play in encouraging flexible uses within the broadcast television bands.

III. BROADCASTERS SHOULD HAVE THE OPTION OF ENTERING INTO CHANNEL SHARING ARRANGEMENTS ON A STRICTLY VOLUNTARY BASIS.

The Commission proposes the establishment of a regulatory framework that would permit two or more stations to share a 6 MHz channel. The Commission asserts that this framework will "preserve over-the-air television as a healthy, viable medium going forward, in a way that would benefit consumers overall, while establishing mechanisms to make available additional spectrum for flexible broadband uses."[34]

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[33] *See* "Live Blog: Japan Earthquake," WALL STREET JOURNAL BLOG (Mar. 11, 2011), http://blogs.wsj.com/japanrealtime/2011/03/11/live-blog-japan-earthquake/tab/liveblog/.

[34] Notice, ¶ 18.

OMVC does not object conceptually to voluntary channel sharing arrangements. However, OMVC urges the Commission to proceed with caution in implementing this proposal so that (1) broadcasters are not forced to participate in such arrangements through indirect means, such as the imposition of spectrum fees or forced migration to a less desirable channel placement as a result of a mandatory repacking process, and (2) there is no reduction in a non-participating station's service area or technical service quality.

OMVC respectfully disagrees with the Commission's assertion that two or more broadcast licensees that elect to share a channel will be able to provide advanced sub-channel services, such as Mobile DTV, in addition to operating their primary SD channels as required by the Commission's rules.[35] This conclusion is undercut by the findings of the National Broadband Plan itself, which recognized that channel sharing and associated spectrum surrenders could make it impossible for participating stations to provide Mobile DTV services:

> Television stations will need to consider their desire to multicast additional video streams, such as digital side channels and mobile DTV streams, relative to the possible sharing of channels. Multicasting mobile DTV streams and digital side channels requires additional bandwidth to ensure reception quality. Stations are just now beginning to deploy such services, and it is not yet clear . . . how they might affect the ability of stations to share channels.[36]

Indeed, based on the experience of the OMVC and its members, in the vast majority of the nation's television markets, a single 6 MHz digital channel would be an insufficient amount of spectrum for all, or even any, of the stacked stations to offer high-quality HDTV programming,

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[35] *See* Notice, ¶ 20.

[36] National Broadband Plan, at 90.

let alone supplement their primary video services with Mobile DTV services.[37] And it is nearly impossible to offer Mobile DTV services on a shared 6 MHz channel.

It is critical that the Commission strike a proper balance in contemplating any framework for channel sharing so that broadcasters and consumers can fully reap the benefits of the DTV transition. The nation completed the transition to digital television for all full-power broadcast television stations less than two years ago — a time period that, in comparison, is half the time provided to many of the winning bidders in the 700 MHz spectrum auction to meet their first construction requirements.[38] To gain public support for the DTV transition, the government struck a bargain with taxpayers and broadcast television licensees; in exchange for the billions of dollars that were spent on the DTV transition,[39] the public would be able to benefit from, and broadcast television licensees would be able to use their full 6 MHz digital channels to offer, a variety of new television services, including Mobile DTV, that were not technically feasible under the analog television broadcasting system.[40]

In the twenty-one months since the DTV transition was completed, broadcasters have wasted no time in launching these innovative services. The Advanced Television Systems Committee (the same international standards organization that developed the original technical

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[37] *See, e.g.*, Broadcast Engineering Forum (June 25, 2010), http://reboot.fcc.gov/workshops/broadcast-engineering-forum.

[38] *See* 47 C.F.R. § 27.14 (generally providing 700 MHz licensees four years to meet their first construction requirements).

[39] *See, e.g.*, Consumer Electronics Association, "FastFacts Historical Data" (2009) (indicating that consumers have invested over $109.8 billion in HD television sets since 2003 and projecting another $21.6 billion investment in 2010); MSTV/NAB, Ex Parte Notice, GN Docket Nos. 09-47, 09-51, and 09-137, at 15, 25 n.60 (Dec. 22, 2009) (explaining that the broadcast television industry spent more than $1 billion in consumer education efforts concerning the DTV transition and that the federal government spent over $2 billion for the NTIA's digital converter box program and consumer education programs).

[40] *See, e.g.*, H.R. Rep. 101-1026, 101st Cong., 2nd Sess., at 133–34 (1990).

standards for digital television), working with all industry stakeholders, anticipated the demand for Mobile DTV and set about to develop the framework for a Mobile DTV ecosystem. This united industry effort — which involved broadcasters, consumer electronics manufacturers, and software providers — resulted in the development, delivery, and adoption of an 850-page technical standard for Mobile DTV in just over two years. In a similarly short time period more than 70 stations have commenced Mobile DTV services, and a number of device manufacturers have brought Mobile DTV devices to market. In implementing any channel sharing proposal, the Commission should avoid adopting any rules or policies that would undermine broadcasters' ability to offer advanced Mobile DTV services.

IV. MANDATING IMPROVEMENTS IN VHF ANTENNA STANDARDS OR PERMITTING LIMITED POWER INCREASES BY VHF LICENSEES WILL NOT FACILITATE THE DEPLOYMENT OF MOBILE DTV SERVICE.[41]

The Notice proposes a number of steps intended to improve the utility of VHF spectrum for digital broadcast television. These steps include increasing the signal-to-noise ratio by raising the transmitted power for certain VHF stations and establishing standards for indoor antennas to improve the reception of low-VHF channels.

The Commission's goal of improving broadcast television service in the VHF spectrum is laudable; however, based on the deep technical experience of the OMVC and its members, we agree with Commissioner Copps that achieving this goal in practice "won't be easy"[42] and, ultimately, will not be practical. As the Commission well knows, broadcasters worked closely with the Commission and other industry stakeholders before, during, and after the DTV transition to come up with creative ways to improve reception in the VHF spectrum.

[41] Fox Television Stations, Inc., does not join in this Section IV of the Comments.

[42] Notice, at 40.

Through this process, the industry learned that the VHF environment is technically challenging and complex and that there are no silver-bullet solutions.

The VHF spectrum presents particularly difficult technical challenges for Mobile DTV. Much larger antennas than those suited for Mobile DTV devices are required for the reception of VHF signals, and the power level required for Mobile DTV devices to receive channels on VHF is impractical.[43] In addition, Mobile DTV signals in the VHF spectrum are much more susceptible to interference than in the UHF bands.

When combined with other proposals in the National Broadband Plan, the Commission's VHF proposal could result in significant and unnecessary disruption to local broadcast television services generally, and Mobile DTV services in particular. The Commission's stated intent in improving reception of VHF broadcast television service "is to treat stakeholders in a fair and equitable manner through procedures established in later action."[44] While the Notice provides no description of what these procedures will entail, when read in connection with the National Broadband Plan this language implies, at least, that the Commission intends to relocate broadcast television licensees from the UHF to the VHF band in order to repurpose the reclaimed UHF spectrum for wireless broadband uses.

The OMVC urges the Commission not to take any action that would reduce the technical quality of local broadcast television service generally, and Mobile DTV services in particular, without any countervailing public benefit. More consumers rely on television every day, regardless of their income or educational background, than rely on mobile broadband. For

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[43] *See, e.g.*, Jonathan Make, "Moving Stations to Lower Channels Seen Not Working for Mobile DTV," COMMUNICATIONS DAILY, at 6 (Mar. 11, 2011).

[44] Notice, ¶ 42.

example, 91.8 percent of households with an income under $25,000 report having recently watched television, while only 7.1 percent of such households have recently used mobile broadband.[45] Similarly, while 91.9 percent of individuals with a high school degree report having recently watched television, only 6.9 percent of high school graduates report having recently used mobile broadband.[46] At the opposite end of the spectrum, while the richest households use mobile broadband more than less advantaged households, they still report watching television more than three times as much as they report using mobile broadband.[47] These statistics suggest that the harm to consumers resulting from significant disruptions in local broadcast television services would vastly outweigh any potential benefit from facilitating increased wireless broadband usage.

* * *

The OMVC hopes that these comments prove helpful as the Commission considers how it might clarify and update the proposals contained in the November 30, 2010 Notice. In summary, the OMVC urges the Commission to:

- Clarify its spectrum allocation proposal to explicitly recognize the complementary role that Mobile DTV can play in encouraging flexible uses within the broadcast television bands;
- Refrain from adopting any proposals that are not implemented on a truly voluntary basis; and
- Implement only those policies that would avoid any disruption or diminishment of the public's free, local broadcast television service generally, and broadcast Mobile DTV in particular.

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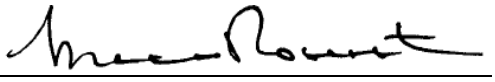
[45] Television Bureau of Advertising, Media Comparisons 2010: Persons, at 3 (2010), http://www.tvb.org/media/file/TVB_PB_Media_Comparisons_2010_PERSONS.pdf.

[46] *Id.*

[47] *Id.*

We look forward to working with you and other stakeholders to continue a productive dialogue aimed at developing a robust and workable framework for encouraging and preserving wireless innovation in the broadcast television spectrum bands.

Respectfully submitted,

By: 

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